# EvaluationGroup, LLC

**North Country**

**Public Health**

**Evaluation Report**

**of**

**Statewide Health Improvement Program Activities**



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**Executive Summary-Findings from Evaluation**

**Nutrition**

* Minnesota Student Survey analysis showed an increase in consumption of five or more servings of fruits and vegetables per day across a three county region from 19.2% (2007) of students to 19.7% (2010).
* While the increase was not statistically significant, some evidence for progress does exist.
* Many schools implemented healthier meal options and allowed more time for eating meals.
* There is an ongoing need for school staff to obtain further training on nutritious food preparation and food nutrition label comprehension.
* In order for advances in school nutrition to be lasting, school food prep staff need skills beyond ‘heat and serve.’
* Schools need continued support for purchasing processing equipment and for preparing and storing fresh fruits and vegetables.
* Numerous farmer’s markets and community gardens were developed to expand opportunities for eating more fresh fruits and vegetables.

**Physical Fitness**

* Adult and youth physical activity, physical fitness, and overall health is similar to state averages.
* Employees were highly receptive to activities that helped increase physical activity.
* Many healthcare providers in the region believe that there are not adequate referral resources for healthy eating, physical fitness, and tobacco cessation.
* There are many opportunities for physical exercise within the North Country Public Health Service Area.
* Existing parks, trails, recreational areas are significant regional strengths
* SHIP created an opportunity for local public health staff to build connections with city council members and leaders and engage them in discussions on ways to create healthier policies, systems and environments.
* The data used by County Health Rankings and other state/federal data collection sources are not very useful in assessing access to recreational activities nor in adequately assessing the extent to which physical fitness opportunities exist.

**Tobacco**

* Smoking rates for adults in the region are higher than state averages.
* Youth from Clearwater and Hubbard counties tend to use tobacco at far higher rates than those youth from Beltrami County and the rest of the state.
* Enforcement of no-smoking policies could be more challenging for employers than establishing policies.

**Overall Health**

* Personal health assessments/wellness surveys were effective activities for screening for needs and identifying high-risk employees for referral.
* One of the keys to physician buy-in is to identify individual physicians whose interests are aligned with SHIP efforts and engage them in a dialogue whereby the physicians interests are advanced while simultaneously undertaking SHIP program goals.
* SHIP activities represent a philosophical shift from implementing public health activities through individually-based interventions to broader population policy, systems and environmental based changes.

**Active Communities**

**Activity Goal**

Implement policies and practices that create active communities by increasing opportunities for non-motorized transportation (walking and biking) and access to community recreation facilities.

**Activities Implemented**

* **City of Blackduck** had Beltrami County create access signage for local biking/hiking trails.
* **City of Bagley** completed a community geocaching event that was an opportunity for exercise, tourism, and identifying key destinations in the community. Also, a walking audit of the city was completed with key community members including the mayor, county engineer, school superintendent, and other supportive community members. Assets and barriers were discussed as well as opportunities for the future.
* **City of Park Rapids** worked to develop the ‘City of Park Rapids Parks and Trails Plan. The plan developed objectives and policies to describe what the city wants to accomplish and how they will accomplish them. Their overarching goal was to develop a trail system linking parks, neighborhoods, and activity centers in Park Rapids. The plan will also in part be used to apply for Legacy Grant funds and/or other grant opportunities.
* **City of Baudette** completed a ‘Community Walk Audit’ to engage community members in active living and walkability barriers. Results from the SHIP Local Team of a one hour walk of the downtown and surrounding residential area show the lack of sidewalks and crosswalks (with signage) and large vehicle traffic are issues for the community. Six bike racks were also purchased with benchmark dollars and were placed throughout school grounds, including the main entrance, pool entrance, playground and ball fields in Baudette.
* **Park Rapids, Bemidji, Bagley and Baudette** developed an Active Living Plan and Toolkit and presented them at county board/city council meetings. Resolutions were passed providing a commitment and vision for active living in the future in each of the communities.

**Evaluation of Goals**

**Methods**

The Rural Active Living Assessment (RALA) was completed by local public health staffing the fall of 2009 and then again in the early summer of 2011. Only the ‘Town Programs and Policies’ section of the RALA was completed in 2011. In addition to the RALA, interviews were conducted with Local Public Health staff to assess their perceptions of changes and major outcomes that occurred in the communities in which they were working. Finally, Active Living plans were created for each of the four communities in the North Country Region. This active Living Plan included an analysis of the strengths, weaknesses, opportunities and threats in the region. Upon completion of the plans, policies and procedures within each community, an Active Living Tool Kit for the overarching region was developed. Highlights from the overall plan are presented herein

**Findings**

***Rural Active Living Assessment (RALA)***

Pre and post-test Rural Active Living Assessments (RALA) were completed in four cities in the North Country region. Aggregate results from all of the cities were examined in order to ascertain overall regional changes in rural active living. Results from the baseline collection period indicate that:

* 4 communities have public parks;
* 4 have hiking trails;
* 4 have at least one private fitness facility;
* 4 have ice rinks;
* 3 have hiking trails;
* 3 have bike paths;
* 2 have public pools;
* 3 have skate parks and;
* 3 have a swimming beach;

Data obtained from the Census County Business Patterns (2008) and included in the overall county health indicators released by the MN Department of Health reveal that prior to SHIP funding, access to recreational facilities was a likely barrier in at least two of the four counties. The data do not take into account however geographic/transportation barriers that play a large role in the region and impact all counties.

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 1: Access to Recreational Facilities** | | | |
| **County** | **Recreational Facilities[[1]](#footnote-1)** | **Population** | **Rec Facility Rate[[2]](#footnote-2)** |
| Beltrami | 5 | 43782 | 11.0 |
| Hubbard | 3 | 18750 | 16.0 |
| Clearwater | 0 | 8246 | 0.0 |
| Lake of the Woods | 1 | 3964 | 25.0 |
| State |  |  | 12.0 |

Data taken from Census County Business Patterns 2008

*Selected overall RALA findings:*

1. Increases in the number and types of physical activity opportunities were evidenced across all four cities from pre to post test.
2. Access to school buildings for community fitness activities appeared to increase.
3. Baudette (Lake of the Woods County) instituted a new policy that requires bikeways/pedestrian walkways in new public infrastructure projects.
4. Baudette also added a new private organization (Lakewood Health Center) that offers physical activity programming for adults. The health center provides fitness opportunities for all community members. No sliding fee scale exists based on income of residents.
5. Park Rapids began participation in the national “Safe Routes to School’ Program.
6. Snow removal from sidewalks policies were added for Bagley and Baudette so that people who want to get physical exercise during the winter months can do so safely.

While the RALA was generally useful in assessing some of the broader policies implemented across a large number of communities, the more nuanced changes that occurred across the sites were better illustrated in interviews with SHIP staff.

***Interviews***

***Increasing healthy nutrition and physical activities all contribute to a healthier community The SHIP grant assisted us to build this foundation. Community members are excited. The momentum is going. I believe we have a good foundation for SHIP to be self-sustained in the future. I look forward to seeing what’s next!”***

**- County Commissioner**

One of the most important outcomes revealed during interviews with SHIP staff was that many interviewees felt that they believed the SHIP grant provided an opportunity to engage local community leaders in planning for better population health. Many interviewees expressed the feeling that their role has traditionally been to administer inoculations and conduct health screenings, but that through SHIP (and the focus on policies and procedures), that they had an opportunity to build relationships and partnerships with local leadership that might not have existed otherwise. In other words, it created an opportunity for local public health staff to visit with city council members and leaders to engage in discussions on creating healthier environments and policies. One county commissioner in the region commented “increasing healthy nutrition and physical activities in addition to tobacco cessation all contribute to a healthier community. The SHIP grant assisted us to build this foundation. Community members are excited. The momentum is going. I believe we have a good foundation for SHIP to be self-sustained in the future. I look forward to seeing what’s next!”

Another SHIP participant stated “what excites me about SHIP is the opportunity it has given our community to come together in an organized fashion to work on something that is so vital to the people who live and play here-good health! It has connected us to other organizations and people who are working toward the same goals and encourages sharing of ideas with one another. From a personal perspective, SHIP supports what I like to see in our community-people involved in health activities utilizing local resources.”

One of the challenges expressed by public health staff implementing the program was the difficulties explaining to community members what policy, systems and environmental change was all about. Interviewees commented that the traditional view by the general population for the role of public health is giving the flu shot. This is a far cry from examining policies and environments, and even for some public health staff, the change in philosophy was a high hurdle to clear. Because of this situation, time delays in implementing PSE change may have been experienced. However, once some of the role issues were ironed out and public health personnel were able to all incorporate their new style of duties, action came easier. Even though the issue of public perceptions of traditional public health work were still challenging to overcome.

***Active Living Plans***

City resolutions were passed in Park Rapids, Bemidji, Bagley and Baudette to support active community lifestyles and to support the regional active living plans. Four active living plan documents were developed, one for each participating municipality. From those, overarching themes were identified and are summarized below.

*Region Wide Active Living Plan Findings*

*Goals*

* Implement policies and practices that create active communities by increasing opportunities for non-motorized transportation & access to community recreational activities.
* Incorporate pedestrian and bicycle facilities into standard transportation improvement programs throughout the region.

*Vision*

Through deliberate, collective action, the North Country region will be a place:

* where there exists a mutual respect among all modes of transportation
* that is as accessible for bicyclists and pedestrians as it is for motor vehicles
* where physical activity is safe, easy, accessible, and a common occurrence for residents
* that has strong connections – allowing people to comfortably navigate to and from destinations in communities
* where children can safely walk and bicycle to school

*Key Strategies*

* Partner on high priorities with a wide range of community organizations to move active living forward
* Complete walk audits in population centers
* Create an “active living toolkit” to help integrate active living principles into the agenda of communities in the Headwaters Region
* Present the “active living toolkit” and seek resolutions of support from municipalities in the Region
* Incorporate complete streets concepts into Transportation Improvement Programs (TIP) or Capital Improvement Plans (CIP)
* Install signage that provides a safe, clear, and seamless trip to key destinations (for pedestrians and bicyclists)
* Install bicycle racks at important destinations (schools, businesses, parks, etc.)
* Include sidewalks, bicycle lanes, wide shoulders, and/or separated bicycle trails in appropriate road reconstruction projects OR as stand-alone transportation projects
* Develop pedestrian and bicycle route maps
* Paint, repaint, and sign marked cross walks – particularly along desirable pedestrian and bicycle routes

*Strengths*

* Existing parks, trails, recreational areas
* Existing planning efforts in many parts of the region
* Organizational leadership (i.e. Community Leadership Team, local teams, *Bemidji Leads!*, Progress Park Rapids, Health Park Rapids 2020, etc.)
* Compact development in parts of the region

*Weaknesses*

* A lack of safe, convenient, and accessible connections and routes to destinations for

bicyclists and pedestrians

* Climate is not always conducive to outdoor physical activity for the average person
* Culture of inactivity
* Existing infrastructure is insufficient
* Development and housing choices centered around the car
* Lack of connections to schools
* Lack of safe pedestrian crossings

*Opportunities*

* Educate and inform communities about the importance of incorporating pedestrian and bicycle facilities into transportation improvement programs
* Present communities with the “active living toolkit” and a resolution of support for active living principles
* Provide necessary infrastructure (Trails, sidewalks, bicycle lanes, signage)
* Create/utilize partnerships
* Promote existing resources
* Educate and inform people about the importance of physical activity

*Threats*

* Culture of inactivity/mindset
* NOT rethinking the status quo for transportation funding
* Current economic times for local units of government

***Other Data Tracking for Future Outcomes***

BRFSS data presented in the 2010 County Health Rankings report produced by the Minnesota Department of Health reveals that across the state, 11% of respondents indicated Fair or Poor health. Whereas Hubbard was 10% and Clearwater was 8%. Evidence in Tables 2a and 2b suggests for these two counties (and possibly LOW), that health issues among citizens are slightly less. The confidence intervals presented lie well within the statewide averages and so it is possible that no real differences exist on this issue. However it is also possible that one potential explanation for slightly better results on health than the statewide average may be that these counties have fewer elderly residents experiencing significant health concerns. Those older residents with greater health concerns might be more likely to move to more urban counties (such as Beltrami) where greater health resources are available.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 2a: Poor or fair health** | | | | |
| **County** | **Sample Size** | **% Fair/Poor** | **95% CI - Low** | **95% CI - High** |
| Beltrami | 267 | 14 | 9 | 20 |
| Hubbard | nd | 10 | 6 | 16 |
| Clearwater | 59 | 8 | 4 | 17 |
| Lake of the Woods | 30 | nd | nd | nd |
| **State** |  | **11** |  |  |

BRFSS 2003-2009

Similarly, all of the counties with data reported fewer than average (but within the confidence interval range) poor physical health days.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 2b: Poor physical health days** | | | | |
| **County** | **Sample Size** | **Physically Unhealthy Days** | **95% CI - Low** | **95% CI - High** |
| Beltrami | 264 | 2.9 | 2.1 | 3.7 |
| Hubbard | nd | 2.7 | 1.8 | 3.7 |
| Clearwater | 59 | 1.8 | 0.6 | 3.1 |
| Lake of the Woods | 28 | nd | nd | nd |
| **State** |  | **3.1** |  |  |

BRFSS 2003-2009

As reported in the community needs assessment at the commencement of SHIP activities, the 2007 BRFSS found that 17.75% of all residents within the North Country region do not exercise (meaning no physical activities during the past month, other than their regular job. This means that it is estimated that 13,264 residents do not exercise.

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 3: Physical inactivity (adult obesity)** | | | |
| **County** | **Physical Inactivity** | **95% CI - Low** | **95% CI - High** |
| Beltrami | 19 | 16 | 23 |
| Hubbard | 19 | 15 | 23 |
| Clearwater | 20 | 15 | 25 |
| Lake of the Woods | 20 | 15 | 26 |
| State | 18.9 |  |  |

National Center for Chronic Disease Prevention and Health Promotion (2008)

*Physical Activity in Youth*

The percentage of students meeting guidelines for physical activity requirements in the region appears to be similar to or slightly above state averages. The regional average percentage of students meeting guidelines for weekly physical activity (Item #2 in Tables 8-10) is 66.3 (61.5-70.8; 95% confidence interval) and the state average is 64.7 (64.2 - 65.2; 95% confidence interval).

Data in these areas will continue to be examined during future SHIP efforts.

**So what does it all mean?**

* There are many opportunities for physical exercise within the North Country Public Health Service Area.
* The information used by County Health Rankings and other state/federal data collection sources are not very useful in assessing access to recreational activities nor in adequately assessing the extent to which physical fitness opportunities exist.
* Adult and youth physical activity, physical fitness and overall health seems to be on par with state averages.
* Cold climate and a culture of inactivity are barriers to physical activity.
* SHIP created an opportunity for local public health staff to visit with city council members and leaders to engage in discussions on creating healthier environments and policies.
* SHIP activities helped challenge the notion that public health staff are only involved in providing inoculations. SHIP activities represent a philosophical shift in impacting public health from individually-based intervention to policy, systems and environmentally based changes.
* Existing parks, trails, recreational areas are significant strengths
* Focus on Key Strategies identified in active living reports moving forward, including:
  + Continue to form partnerships Partner on high priorities with a wide range of community organizations.
  + Incorporate ‘Complete Streets’ concepts into Transportation Improvement Programs (TIP) or Capital Improvement Plans (CIP)
  + Install signage that provides a safe, clear, and seamless trip to key destinations (for pedestrians and bicyclists)
  + Develop pedestrian and bicycle route maps
  + Paint, repaint, and sign marked cross walks

**Healthy Eating in Schools**

**Activity Goal**

Implement comprehensive nutrition policies, including: breakfast promotion; healthy lunch and snacks, including classroom celebrations and incentives, fundraising, concessions, and vending; school gardens; and Farm-to-School initiatives.

**Activities Implemented**

* **Kelliher Schools** worked on policy development by changing their wellness policy to form a School Health Committee and setting a meeting time to two times a year. Both actions were approved by the school board.
* **Blackduck School District** worked on policy development by changing their wellness policy on rewards and incentives, which was approved by the school board.
* **Clearbrook-Gonvick** **School District** efforts in 2010 included a school garden/fruit trees and interest in working toward a farm-to-school program with taste testing/use of crop in the next school year (2011).
* **Bagley Public School** was awarded a ‘Growing Up Healthy’ grant through Blue Cross and Blue Shield Foundation through collaborative efforts with SHIP staff.Bagley also worked on strengthening the enforcement of their current policy of offering healthy foods in all areas, including efforts towards changing their school vending machines policy.
* **Park Rapids school district** worked on strengthening the enforcement of healthy school food offerings. They also developed a school wellness committee and changed the environment by offering healthy a la carte options and healthy food in vending machines.
* **LaPorte school district** worked on policy development by establishing a student wellness policy that was approved by the school board and communicated to staff.
* **Baudette School District** worked on strengthening the enforcement of their current policy of offering healthy foods in all areas. They also changed healthy a la carte food options.

**Evaluation of Goals**

**Methods**

Two central analyses in addition to SHIP staff interviews were conducted as part of the School Nutrition intervention evaluation. The quantitative analysis involved pre/post-test data of the School Health Index (SHI) survey instrument and an analysis of the 2007-2010 Minnesota Student Survey data. A total of Nine schools completed portions of the SHI both at the baseline (November 2009) and follow-up (May 2011) time periods. The SHI Module 1 (School Health and Safety Policies and Environment) and Module 4 (Nutrition Services) were completed by school nurses or school food service personnel. Minnesota Student Survey data raw data sets were requested and analyzed for the years 2007 and 2010. Comparisons across time and to state averages were made.

**Results**

Findings reveal that the largest number of Nutrition Services policy changes were reported to have occurred by altering ala cart items to include more healthier options (3 schools) and the inclusion of more adequate time for consuming school meals (3 schools).

The largest change in mean scores in implementing healthful Nutrition Services occurred on the items:

* Adequate time to eat school meals (pre-mean=2.2, post mean=2.6);
* Sites outside cafeteria offer appealing, low fat items (pre-mean=1.5, post mean=1.8);
* Food purchasing and preparation practices to reduce fat content (pre-mean=1.8, post-mean=2.1)[[3]](#footnote-3).

Other Nutrition Services items where increases in scores occurred once included:

1) Professional development for food service managers;

2) Collaboration between food service staff and teachers; and

3) Degree and certification of food service manager (see Table 4 for more details).

One unexpected finding of the survey revealed that on some questions from Module 4, scores decreased (i.e. things ostensibly got worse). For example, the baseline score for the item 'meals include appealing, low fat items' was 2.7. At follow-up, the mean score decreased to 2.5. Other items where decreases in scores occurred included: 'preparedness for food emergencies’, ‘promotion of healthy food and beverage choices’, and ‘collaboration between food service staff and teachers.’

These seemingly negative findings suggest that one of several things could have happened:

1) A number of schools actually had their meal quality (and other nutrition services) decrease or degrade during the data collection timeframe;

2) The assessments of nutrition services changed as a result of increases in staff knowledge;

3) In certain cases two different raters were used and scored responses differently.

It appears that no more than two schools had different raters between pre and post assessment, leaving open the strong possibility that increases in staff knowledge through trainings and interactions with SHIP staff and sensitivity to the issue of healthfulness may be likely accounting for the negative direction in some scores; or

4) School personnel collecting data about their respective environments may have been more favorable in their assessments prior to their involvement with the full extent of SHIP services.

After interacting with SHIP staff and receiving training, results suggest that school staff may have acquired greater knowledge/awareness of what constitutes nutritious services and healthy food offerings and thereby rated items in the post test SHI survey more accurately.

On Module 1 (see Table 6), findings reveal that the largest number of School Health and Safety Policies and Environment changes were reported to have occurred via several methods, including:

1) forming a representative school health committee (3 schools);

2) prohibiting tobacco use among staff and visitors (2 schools);

3) prohibiting the use of physical activity as punishment (2 schools);

4) restricting access to foods of low nutritive value (2 schools).

The largest change in mean scores in implementing healthful Nutrition Services occurred on the items:

* representative school health committee (pre-mean=2.0, post mean=2.8);
* prohibiting the use of food as reward or punishment (pre-mean=1.7, post mean=2.0);
* adequate physical activity facilities (pre-mean=2.6, post mean=2.9); and
* recess (pre-mean=2.8, post mean=3.0.

As with Module 4, Module 1 had a few items that changed score in a direction contrary to what might be expected. Two items that decreased (albeit very small changes) were ‘restricting access to foods of minimal nutritional value’, and ‘access to physical activity facilities outside school hours’. As with module 4, these decreases in scores may have been subject to some variability due to different raters and changes in knowledge as the participants were exposed to SHIP information.

**Table 4: Module 4-Nutrition Services (N=9 schools)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Number and direction  of changes** | | **Module 4-Nutrition Services (N=9 schools)** | **Item#** | **Item** | **Pre** | **Post** | **Diff** |
| Neg | Pos |  |  |  |  |  |  |
| 1 |  | Preparedness for food emergencies | 14 | **M4S2N14** | 2.67 | 2.38 | -0.29 |
| 1 | 3 | A la carte offerings include appealing, low-fat items | 6 | **M4N6** | 2.50 | 2.25 | -0.25 |
| 2 |  | Meals include appealing, low fat items | 4 | **M4N4** | 2.78 | 2.57 | -0.21 |
| 1 | 1 | Promote healthy food and beverage choices | 8 | **M4N8** | 2.33 | 2.25 | -0.08 |
|  | 1 | Variety of foods in school meals | 2 | **M4N2** | 2.33 | 2.29 | -0.05 |
|  |  | Low-fat and skim milk available | 3 | **M4N3** | 3.00 | 3.00 | 0.00 |
|  |  | Clean, safe, pleasant cafeteria | 13 | **M4S1N13** | 3.00 | 3.00 | 0.00 |
|  |  | Breakfast and lunch programs | 1 | **M4N1** | 3.00 | 3.00 | 0.00 |
|  | 1 | Professional development for food service manager | 12 | **M4N12** | 2.67 | 2.75 | 0.08 |
| 1 | 2 | Collaboration between food service staff and teachers | 10 | **M4N10** | 1.78 | 1.88 | 0.10 |
|  | 1 | Degree and certification of food service manager | 11 | **M4N11** | 2.11 | 2.25 | 0.14 |
|  | 2 | Food purchasing and preparation practices to reduce fat content | 5 | **M4N5** | 1.83 | 2.14 | 0.31 |
|  | 2 | Sites outside cafeteria offer appealing, low fat items | 7 | **M4N7** | 1.56 | 1.88 | 0.32 |
|  | 3 | Adequate time to eat school meals | 9 | **M4N9** | 2.22 | 2.63 | 0.40 |

**Table 5: Overall scores for Module 4 subscale (Nutrition Services) for baseline and follow-up tests**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **Baseline** | |  | **Follow-Up** | |  |  |
| **School\_Name** | **School\_County** |  | **M4TOTAL** | **M4SCORE** |  | **M4TOTAL** | **M4SCORE** |  | **Difference** |
| Blackduck | Beltrami |  | 39 | 92.0% |  | 36 | 92.0% |  | 0.0% |
| Kelliher | Beltrami |  | 35 | 97.2% |  | 35 | 97.2% |  | 0.0% |
| Solway | Beltrami |  | 34 | 87.2% |  | 40 | 95.2% |  | 8.1% |
| Park Rapids | Hubbard |  | 21 | 50.0% |  | 15 | 35.7% |  | -14.3% |
| LaPorte | Hubbard |  | 36 | 92.3% |  | 0\* | 0.0% |  | 0.0%\* |
| Nevis | Hubbard |  | 37 | 94.9% |  | 42 | 100.0% |  | 5.1% |
| Baudette | LOW |  | 35 | 83.3% |  | 37 | 88.1% |  | 4.8% |
| Clearbrook-Gonvick | Clearwater & Ely |  | 30 | 76.9% |  | 36 | 85.7% |  | 8.8% |
| Bagley School | Clearwater & Ely |  | 24 | 57.1% |  | 26 | 66.7% |  | 9.5% |

**\*There were no post test data for LaPorte**

**Table 6: Module 1-Selected School Health and Safety Policies and Environment (N=9 schools)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Number of schools and direction  of changes** | | **Module 1-Selected School Health and Safety Policies and Environment (N=9 schools)** | **Item#** | **Pre** | **Post** | **Diff** |
| decrease | increase |  |  |  |  |  |
|  | 3 | Representative school health committee | cc1 | 2.0 | 2.8 | 0.8 |
|  | 1 | Prohibit using food as reward or punishment | n1 | 1.7 | 2.0 | 0.3 |
| 1 | 1 | Adequate physical activity facilities | pa3 | 2.6 | 2.9 | 0.3 |
|  | 2 | Recess | pa1 | 2.8 | 3.0 | 0.3 |
|  | 1 | Enforce tobacco-use policies | t3 | 2.3 | 2.6 | 0.2 |
|  | 2 | Prohibit tobacco use among staff and visitors | t2 | 2.8 | 3.0 | 0.2 |
| 2 | 2 | Prohibit using physical activity as punishment | pa4 | 2.2 | 2.4 | 0.2 |
|  | 2 | Restrict access to other foods of low nutritive value | n3 | 2.0 | 2.1 | 0.1 |
| 1 | 1 | Prohibit tobacco use among students | t1 | 3.0 | 3.0 | 0.0 |
|  |  | Prohibit tobacco advertising | t4 | 3.0 | 3.0 | 0.0 |
|  | 2 | Fundraising efforts supportive of healthy eating | n2 | 0.8 | 0.8 | 0.0 |
| 1 | 2 | Restrict access to foods of minimal nutritional value | n4 | 2.0 | 1.9 | -0.1 |
|  |  | Access to physical activity facilities outside school hours | pa2 | 2.6 | 2.4 | -0.1 |

***Minnesota Student Survey***

Minnesota Student Survey Comparisons were made for three of the participating counties between the overall region and statewide statistics. Data for Lake of the Woods County was not available for analysis. Comparisons were also made over time from 2007 to 2010 and the resulting data tables can be found in Tables 7-10 on the following pages.

*Consumption of Fruits and Vegetables*

One especially encouraging result from the student survey analysis was the increase in consumption of five or more servings of fruits and vegetables per day across a three county region from 19.2% of students to 19.7%. While the increase was not statistically significant, some evidence for progress does exist. Of the three counties, Beltrami county (home to Bemidji) has a significantly (statistically) higher rate of consumption of fresh fruits and vegetables in comparison to Clearwater and Hubbard counties and the rest of the state. However room for progress remains as students in the region in in Clearwater and Hubbard still consume less fruits and vegetables than those from across the rest of the state.

|  |  |  |
| --- | --- | --- |
| **Table 7: Percent of youth consuming five or more servings**  **of fruits and vegetables per day** | | |
|  | **Year** | |
| **County** | **2007**  ***% and 95% Confidence Interval*** | **2010**  ***% and 95% Confidence Interval*** |
| Clearwater | 17.8 (10.5 - 28.6) | 10.0 (4.5 - 20.9) |
| Lake of the Woods | No data | No data |
| Hubbard | 14.1 (9.1 - 21.1) | 17.0 (10.9 - 25.5) |
| Beltrami County | 22.8 (17.7 - 28.9)\* | 23.6 (18.4 - 29.6)^ |
| North Country SHIP Average | 19.2 (15.7 - 23.2) | 19.7 (16.0 - 24.0) |
| **MN State** | **16.1 (15.7 – 16.4)** | **17.3 (16.9 - 17.7)** |
| ^- value in the left column for county in 2010 is significantly different from a corresponding value in the right column for MN STATE  \* - value in the left column for county in 2007 is significantly different from a corresponding value in the right column for MN STATE | | |

As with other data sets, the MNSS data will be tracked in future years for comparisons over time with new funding from SHIP 2.0

**Table 8: Minnesota Student Survey 2007 & 2010 Analysis of Selected Items**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **BELTRAMI COUNTY % (95% CI)** | | **SHIP COUNTIES % (95% CI)** | | | **MN STATE % (95% CI)** | | | |
| **Health Risk Category** | **2007 (N=222)** | **2010 (N=233)** | **2007 (N=432)** | **2010 (N=402)** | | **2007 (N=36,755)** | | **2010 (N=36,734)** | |
| **1. Weight Status[1]** |  |  |  |  | |  | |  | |
| a. At risk for overweight[2] | 14.7 (10.4 - 20.3) | **10.2 (6.8 - 15.0)** | 14.3 (11.2 - 18.1) | **10.9 (8.1 -14.5)** | | 12.4 (12.0-12.8) | | **11.9 (11.6 - 12.3)** | |
| b. Overweight[3] | 7.8 (4.8 - 12.5) | **9.7 (6.4 - 14.5)** | 9.6 (7.1 - 12.9) | **11.1 (8.3 - 14.8)** | | 9.2 (8.9-9.5) | | **9.4 (9.1 - 9.8)** | |
| a) Thinks overweight | 24.9 (19.6 - 31.1) | **29.6 (24.0 - 36.0)** | 25.7 (21.8 - 30.1) | **24.3 (20.3 -28.8)** | | 25.2 (24.7-25.6) | | **23.1 (22.6 - 23.5)** | |
| b) Used cigarettes in the past 12 months to lose /control weight | 4.5 (2.4 - 8.2) | **5.7 (3.3 - 9.5)** | 7.4 (5.3 -10.3) | **6.0 (4.1 - 8.8)** | | 6.6 (6.3-6.8) | | **5.5 (5.3 - 5.7)** | |
| c) used exercise in past 12 months to lose / control weight | 54.1 (47.4 - 60.6) | **51.3 (44.8 - 57.8)** | 49.1 (44.4 - 53.8) | **48.4 (43.5 - 53.3)** | | 47.9 (47.4-48.4) | | **47.2 (46.7 - 47.8)** | |
| d) use healthy diet to lose / control weight | 44.6 (38.1 - 51.2) | **45.7 (39.3 - 52.2)** | 42.6 (38.0 - 47.3) | **42.6 (37.8 - 47.5)** | | 43.0 (42.5-43.5) | | **41.9 (41.4-42.4)** | |
| **2. Meet guidelines for weekly PA[4]** | 71.8 (65.4 -77.5) | **63.9 (57.5 - 69.9)** | 71.4 (66.8 - 75.5) | **66.3 (61.5 - 70.8)** | | 68.7 (68.2-69.2) | | **64.7 (64.2 - 65.2)** | |
| a. insufficient weekly PA | 16.4 (12.0 -22.1) | **27.4 (22.0 - 33.6)** | 18.9 (15.4 -23.0) | **24.8 (20.8 - 29.3)** | | 20.8 (20.4-21.2) | | **25.9 (25.4 - 26.4)** | |
| b. No weekly PA | 11.7 (8.0 -16.8) | **8.7 (5.7 - 13.1)** | 9.7 (7.2 - 13.0) | **8.9 (6.4 - 12.1)** | | 10.5 (10.1-10.8) | | **9.4 (9.1 - 9.7)** | |
| **3. Five or more servings of fruits and vegetables per day** | 22.8 (17.7 - 28.9)\* | **23.6 (18.4 - 29.6)^** | 19.2 (15.7 - 23.2) | **19.7 (16.0 - 24.0)** | | 16.1 (15.7 – 16.4) | | **17.3 (16.9 - 17.7)** | |
| **4. Use of tobacco products in the past 30 days** | 37.0 (30.8 - 43.7) | **31.6 (25.8 - 37.9)** | 39.6 (35.1 - 44.4) | **35.9 (31.3 - 40.7)** | | 34.0 (33.5-34.5) | | **31.3 (30.8 - 31.8)** | |
| a. frequent use of tobacco products (20+ days) in the past 30 days | 13.9 (9.9 - 19.2) | **17.1 (12.7 - 22.6)^** | 17.5 (14.1 - 21.4) | **18.9 (15.4 - 23.1)** | | 14.8 (14.4-15.1) | | **13.0 (12.7 - 13.4)** | |
| **5. Cigarette use in the past 30 days** | 28.6 (22.9 - 35.0) | **28.5 (23.0 - 34.8)** | 29.5 (25.3 - 34.0) | **29.3 (25.0 - 34.0)** | | 25.6 (25.1-26.0) | | **21.7 (21.3 - 22.1)** | |
| a. Frequent cigarette use (20+ days) in the past 30 days | 11.1 (7.5 - 16.0) | **15.4 (11.2 - 20.7)^** | 13.0 (10.1 - 16.5) | **14.9 (11.7 -18.8)** | | 11.5 (11.2-11.9) | | **9.3 (9.0 - 9.6)** | |
| b. 10 + cigarettes per day in the past 30 days[5] | 17.5 (9.7 - 29.7) | **26.6 (17.1 - 38.7)** | 23.3 (16.4 - 31.9) | **29.1 (21.3 - 38.3)** | | 25.6 (24.6-26.5) | | **23.1 (22.1 - 24.1)** | |
| c. Had a cigarette before age 13 | 20.3 (15.4 - 26.2)\* | **24.1 (19.0 - 30.1)^** | 20.8 (17.1 - 24.9) | **22.3 (18.4 - 26.7)** | | 13.9 (13.6-14.3) | | **10.3 (10.0 - 10.6)** | |
| **6. Used smokeless tobacco in past 30 days** | 7.9 (4.9 - 12.3) | **6.2 (3.7 - 10.2)^** | 12.5 (9.7 - 16.0) | **12.7 (9.7 - 16.3)** | | 10.4 (10.1-10.7) | | **12.1 (11.8 - 12.5)** | |
| **7. Smoked cigars, cigarillos or little cigars in past 30 days** | 19.4 (14.7 - 25.3) | **14.9 (10.8 - 20.2)** | 18.4 (15.0 - 22.4) | **15.7 (12.4 - 19.6)** | | 17.9 (17.5-18.3) | | **17.6 (17.2 - 18.0)** | |
| **8. Used smokeless tobacco or had a cigar before age 13** | 5.1 (2.8 - 17.39) | **6.6 (4.0 - 10.6)** | 5.7 (3.8 - 8.3) | **6.8 (4.7 - 9.8)** | | 5.0 (4.8-5.2) | | **4.4 (4.2 - 4.6)** | |
| **9. Tobacco Access** |  |  |  |  | |  | |  | |
| a. bought at gas stations or convenience store | 53.7 (42.8 - 64.2) | **67.6 (56.1 - 77.3)** | 64.1 (56.6 - 71.0) | **68.8 (60.7 - 75.8)** | | 63.1 (62.3-64.0) | | **62.6 (61.6 - 63.5)** | |
| b. got it from friends | 51.2 (40.4 - 61.9) | **54.1 (42.6 - 65.1)** | 51.2 (43.7 - 58.6) | **43.1 (35.2 - 51.3)** | | 45.6 (44.7-46.5) | | **42.6 (41.7 - 43.6)** | |
| c. got it by having someone else buy it | 14.6 (8.5 - 24.1) | **10.8 (5.5 - 20.2)** | 13.5 (9.1 - 19.6) | **11.1 (6.9 -17.4)** | | 14.6 (14.0-15.3) | | **13.2 (12.6 - 13.8)** | |
| [1] The CDC growth charts were used to determine weight status according to BMI for participants in the Minnesota Student Survey. | | | |  | |  | |  | |
| [2] 85th to less than 95th percentile on the CDC growth charts |  |  |  |  | |  | |  | |
| [3] Equal to or greater than the 95th percentile on the CDC growth charts | | | | | | | | | |
| [4] 12th graders who have reported participating in either vigorous physical activity for 20 or more minutes per day on 3 or more days in the past 7 days or moderate physical activity for 30 or more minutes per day on 5 or more days in the past 7 days. | | | | | | | | | |
| [5] % of those who reported smoking cigarettes in the past 30 days |  |  |  | |  | |  | |  |
| \* - value in the left column for county in 2007 is significantly different from a corresponding value in the right column for MN STATE | | | | | | | | | |
| ^- value in the left column for county in 2010 is significantly different from a corresponding value in the right column for MN STATE | | | | | | | | | |

**Table 9: Minnesota Student Survey 2007 & 2010 Analysis of Selected Items**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **CLEARWATER COUNTY % (95% CI)** | | | **SHIP COUNTIES % (95% CI)** | | **MN STATE % (95% CI)** | |
| **Health Risk Category** | **2007 (N=73)** | | **2010 (N=61)** | **2007 (N=432)** | **2010 (N=402)** | **2007 (N=36,755)** | **2010 (N=36,734)** |
| **1. Weight Status[1]** |  | |  |  |  |  |  |
| a. At risk for overweight[2] | 20.0 (12.1 - 31.3) | | **14.0 (7.0 - 26.1)** | 14.3 (11.2 - 18.1) | **10.9 (8.1 -14.5)** | 12.4 (12.0-12.8) | **11.9 (11.6 - 12.3)** |
| b. Overweight[3] | 8.6 (3.8 - 18.1) | | **5.3 (1.7 - 15.5)** | 9.6 (7.1 - 12.9) | **11.1 (8.3 - 14.8)** | 9.2 (8.9-9.5) | **9.4 (9.1 - 9.8)** |
| a) Thinks overweight | 23.6 (15.0 - 35.0) | | **13.6 (6.8 - 25.2)** | 25.7 (21.8 - 30.1) | **24.3 (20.3 -28.8)** | 25.2 (24.7-25.6) | **23.1 (22.6 - 23.5)** |
| b) Used cigarettes in the past 12 months to lose /control weight | 4.1 (1.3 - 12.3) | | **4.9 (1.5 - 14.6)** | 7.4 (5.3 -10.3) | **6.0 (4.1 - 8.8)** | 6.6 (6.3-6.8) | **5.5 (5.3 - 5.7)** |
| c) used exercise in past 12 months to lose / control weight | 49.3 (37.8 - 60.9) | | **42.6 (30.6 - 55.6)** | 49.1 (44.4 - 53.8) | **48.4 (43.5 - 53.3)** | 47.9 (47.4-48.4) | **47.2 (46.7 - 47.8)** |
| d) use healthy diet to lose / control weight | 39.7 (29.0 - 51.6) | | **39.3 (27.7 - 52.4)** | 42.6 (38.0 - 47.3) | **42.6 (37.8 - 47.5)** | 43.0 (42.5-43.5) | **41.9 (41.4-42.4)** |
| **2. Meet guidelines for weekly PA[4]** | 74.3 (62.5 - 83.3) | | **65.0 (51.8 - 76.2)** | 71.4 (66.8 - 75.5) | **66.3 (61.5 - 70.8)** | 68.7 (68.2-69.2) | **64.7 (64.2 - 65.2)** |
| a. insufficient weekly PA | 20.0 (12.1 -31.3) | | **25.0 (15.4 - 37.8)** | 18.9 (15.4 -23.0) | **24.8 (20.8 - 29.3)** | 20.8 (20.4-21.2) | **25.9 (25.4 - 26.4)** |
| b. No weekly PA | 5.7 (2.1-14.6) | | **10.0 (4.5 - 20.9)** | 9.7 (7.2 - 13.0) | **8.9 (6.4 - 12.1)** | 10.5 (10.1-10.8) | **9.4 (9.1 - 9.7)** |
| **3. Five or more servings of fruits and vegetables per day** | 17.8 (10.5 - 28.6) | | **10.0 (4.5 - 20.9)** | 19.2 (15.7 - 23.2) | **19.7 (16.0 - 24.0)** | 16.1 (15.7 – 16.4) | **17.3 (16.9 - 17.7)** |
| **4. Use of tobacco products in the past 30 days** | 29.2 (19.7 - 40.9) | | **45.9 (33.6 - 58.8)^** | 39.6 (35.1 - 44.4) | **35.9 (31.3 - 40.7)** | 34.0 (33.5-34.5) | **31.3 (30.8 - 31.8)** |
| a. frequent use of tobacco products (20+ days) in the past 30 days | 18.1 (10.6 - 29.0) | | **18.0 (10.1 - 30.1)** | 17.5 (14.1 - 21.4) | **18.9 (15.4 - 23.1)** | 14.8 (14.4-15.1) | **13.0 (12.7 - 13.4)** |
| **5. Cigarette use in the past 30 days** | 19.4 (11.7 - 30.5) | | **29.5 (19.2 - 42.4)** | 29.5 (25.3 - 34.0) | **29.3 (25.0 - 34.0)** | 25.6 (25.1-26.0) | **21.7 (21.3 - 22.1)** |
| a. Frequent cigarette use (20+ days) in the past 30 days | 9.7 (4.6 - 19.3) | | **13.1 (6.6 -24.5)** | 13.0 (10.1 - 16.5) | **14.9 (11.7 -18.8)** | 11.5 (11.2-11.9) | **9.3 (9.0 - 9.6)** |
| b. 10 + cigarettes per day in the past 30 days[5] | 15.4 (3.7 - 46.0) | | **18.8 (6.0 - 45.6)** | 23.3 (16.4 - 31.9) | **29.1 (21.3 - 38.3)** | 25.6 (24.6-26.5) | **23.1 (22.1 - 24.1)** |
| c. Had a cigarette before age 13 | 19.4 (11.7 - 30.5) | | **18.3 (10.3 - 30.6)** | 20.8 (17.1 - 24.9) | **22.3 (18.4 - 26.7)** | 13.9 (13.6-14.3) | **10.3 (10.0 - 10.6)** |
| **6. Used smokeless tobacco in past 30 days** | 12.5 (6.5 - 22.6) | | **19.7 (11.3 - 31.9)** | 12.5 (9.7 - 16.0) | **12.7 (9.7 - 16.3)** | 10.4 (10.1-10.7) | **12.1 (11.8 - 12.5)** |
| **7. Smoked cigars, cigarillos or little cigars in past 30 days** | 8.3 (3.7 - 17.6) | | **18.0 (10.1 - 30.1)** | 18.4 (15.0 - 22.4) | **15.7 (12.4 - 19.6)** | 17.9 (17.5-18.3) | **17.6 (17.2 - 18.0)** |
| **8. Used smokeless tobacco or had a cigar before age 13** | 5.6 (2.1 - 14.2) | | **3.3 (0.8 - 12.6)** | 5.7 (3.8 - 8.3) | **6.8 (4.7 - 9.8)** | 5.0 (4.8-5.2) | **4.4 (4.2 - 4.6)** |
| **9. Tobacco Access** |  | |  |  |  |  |  |
| a. bought at gas stations or convenience store | 61.9 (39.7-80.0) | | **82.1 (63.0 - 92.6)** | 64.1 (56.6 - 71.0) | **68.8 (60.7 - 75.8)** | 63.1 (62.3-64.0) | **62.6 (61.6 - 63.5)** |
| b. got it from friends | 47.6 (27.4 - 68.6) | | **28.6 (14.7 - 48.2)** | 51.2 (43.7 - 58.6) | **43.1 (35.2 - 51.3)** | 45.6 (44.7-46.5) | **42.6 (41.7 - 43.6%)** |
| c. got it by having someone else buy it | 9.5 (2.3-31.9) | | **10.7 (3.4 - 29.2)** | 13.5 (9.1 - 19.6) | **11.1 (6.9 -17.4)** | 14.6 (14.0-15.3) | **13.2 (12.6 - 13.8)** |
| [1] The CDC growth charts were used to determine weight status according to BMI for participants in the Minnesota Student Survey. | | | |  |  |  |  |
| [2] 85th to less than 95th percentile on the CDC growth charts | |  |  |  |  |  |  |
| [3] Equal to or greater than the 95th percentile on the CDC growth charts | | | | | | | |
| [4] 12th graders who have reported participating in either vigorous physical activity for 20 or more minutes per day on 3 or more days in the past 7 days or moderate physical activity for 30 or more minutes per day on 5 or more days in the past 7 days. | | | | | | | |
| [5] % of those who reported smoking cigarettes in the past 30 days | |  |  |  |  |  |  |
| ^- value in the left column for county in 2010 is significantly different from a corresponding value in the right column for MN STATE | | | | | | | |

**Table 10: Minnesota Student Survey 2007 & 2010 Analysis of Selected Items**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **HUBBARD COUNTY % (95% CI)** | | | **SHIP COUNTIES % (95% CI)** | | **MN STATE % (95% CI)** | |
| **Health Risk Category** | **2007 (N=137)** | | **2010 (N=108)** | **2007 (N=432)** | **2010 (N=402)** | **2007 (N=36,755)** | **2010 (N=36,734)** |
| **1. Weight Status[1]** |  | |  |  |  |  |  |
| a. At risk for overweight[2] | 10.6 (6.3 - 17.2) | | **10.5 (5.7 - 18.6)** | 14.3 (11.2 - 18.1) | **10.9 (8.1 -14.5)** | 12.4 (12.0-12.8) | **11.9 (11.6 - 12.3)** |
| b. Overweight[3] | 12.9 (8.1 - 19.8) | | **17.9 (11.3 - 27.1)^** | 9.6 (7.1 - 12.9) | **11.1 (8.3 - 14.8)** | 9.2 (8.9-9.5) | **9.4 (9.1 - 9.8)** |
| a) Thinks overweight | 28.1 (21.1 - 36.4) | | **18.9 (12.4 - 27.6)** | 25.7 (21.8 - 30.1) | **24.3 (20.3 -28.8)** | 25.2 (24.7-25.6) | **23.1 (22.6 - 23.5)** |
| b) Used cigarettes in the past 12 months to lose /control weight | 13.9 (9.0 -20.8)\* | | **7.4 (3.7 - 14.3)** | 7.4 (5.3 -10.3) | **6.0 (4.1 - 8.8)** | 6.6 (6.3-6.8) | **5.5 (5.3 - 5.7)** |
| c) used exercise in past 12 months to lose / control weight | 40.9 (32.9 - 49.4) | | **45.4 (36.1 - 55.0)** | 49.1 (44.4 - 53.8) | **48.4 (43.5 - 53.3)** | 47.9 (47.4-48.4) | **47.2 (46.7 - 47.8)** |
| d) use healthy diet to lose / control weight | 40.9 (32.9 - 49.4) | | **38.0 (29.2 - 47.6)** | 42.6 (38.0 - 47.3) | **42.6 (37.8 - 47.5)** | 43.0 (42.5-43.5) | **41.9 (41.4-42.4)** |
| **2. Meet guidelines for weekly PA[4]** | 69.0 (60.4 - 76.5) | | **72.4 (62.9 - 80.2)** | 71.4 (66.8 - 75.5) | **66.3 (61.5 - 70.8)** | 68.7 (68.2-69.2) | **64.7 (64.2 - 65.2)** |
| a. insufficient weekly PA | 22.5 (16.0 - 30.6) | | **19.0 (12.5 - 27.8)** | 18.9 (15.4 -23.0) | **24.8 (20.8 - 29.3)** | 20.8 (20.4-21.2) | **25.9 (25.4 - 26.4)** |
| b. No weekly PA | 8.5 (4.7 - 14.8) | | **8.6 (4.5 - 15.8)** | 9.7 (7.2 - 13.0) | **8.9 (6.4 - 12.1)** | 10.5 (10.1-10.8) | **9.4 (9.1 - 9.7)** |
| **3. Five or more servings of fruits and vegetables per day** | 14.1 (9.1 - 21.1) | | **17.0 (10.9 - 25.5)** | 19.2 (15.7 - 23.2) | **19.7 (16.0 - 24.0)** | 16.1 (15.7 – 16.4) | **17.3 (16.9 - 17.7)** |
| **4. Use of tobacco products in the past 30 days** | 49.3 (40.9 - 57.7)\* | | **39.3 (30.3 - 48.9)** | 39.6 (35.1 - 44.4) | **35.9 (31.3 - 40.7)** | 34.0 (33.5-34.5) | **31.3 (30.8 - 31.8)** |
| a. frequent use of tobacco products (20+ days) in the past 30 days | 22.8 (16.4 - 30.7)\* | | **23.4 (16.2 - 32.5)^** | 17.5 (14.1 - 21.4) | **18.9 (15.4 - 23.1)** | 14.8 (14.4-15.1) | **13.0 (12.7 - 13.4)** |
| **5. Cigarette use in the past 30 days** | 36.3 (28.5 - 44.8)\* | | **30.8 (22.7 - 40.4)^** | 29.5 (25.3 - 34.0) | **29.3 (25.0 - 34.0)** | 25.6 (25.1-26.0) | **21.7 (21.3 - 22.1)** |
| a. Frequent cigarette use (20+ days) in the past 30 days | 17.8 (12.2 - 25.3)\* | | **15.0 (9.3 - 23.2)** | 13.0 (10.1 - 16.5) | **14.9 (11.7 -18.8)** | 11.5 (11.2-11.9) | **9.3 (9.0 - 9.6)** |
| b. 10 + cigarettes per day in the past 30 days[5] | 32.6 (20.6 - 47.5) | | **40.0 (24.1 -58.3)^** | 23.3 (16.4 - 31.9) | **29.1 (21.3 - 38.3)** | 25.6 (24.6-26.5) | **23.1 (22.1 - 24.1)** |
| c. Had a cigarette before age 13 | 22.2 (15.9 - 30.1)\* | | **20.6 (13.8 - 29.4)^** | 20.8 (17.1 - 24.9) | **22.3 (18.4 - 26.7)** | 13.9 (13.6-14.3) | **10.3 (10.0 - 10.6)** |
| **6. Used smokeless tobacco in past 30 days** | 19.9 (13.9 - 27.5) | | **22.4 (15.4 - 31.4)^** | 12.5 (9.7 - 16.0) | **12.7 (9.7 - 16.3)** | 10.4 (10.1-10.7) | **12.1 (11.8 - 12.5)** |
| **7. Smoked cigars, cigarillos or little cigars in past 30 days** | 22.2 (15.9 - 30.1) | | **15.9 (10.0 -24.2)** | 18.4 (15.0 - 22.4) | **15.7 (12.4 - 19.6)** | 17.9 (17.5-18.3) | **17.6 (17.2 - 18.0)** |
| **8. Used smokeless tobacco or had a cigar before age 13** | 6.7 (3.5 - 12.4) | | **9.3 (5.1 - 16.6)** | 5.7 (3.8 - 8.3) | **6.8 (4.7 - 9.8)** | 5.0 (4.8-5.2) | **4.4 (4.2 - 4.6)** |
| **9. Tobacco Access** |  | |  |  |  |  |  |
| a. bought at gas stations or convenience store | 77.6 (66.0 - 86.1)\* | | **61.9 (46.3 - 75.4)** | 64.1 (56.6 - 71.0) | **68.8 (60.7 - 75.8)** | 63.1 (62.3-64.0) | **62.6 (61.6 - 63.5)** |
| b. got it from friends | 52.2 (40.2 - 64.0) | | **33.3 (20.7 - 49.0)** | 51.2 (43.7 - 58.6) | **43.1 (35.2 - 51.3)** | 45.6 (44.7-46.5) | **42.6 (41.7 - 43.6%)** |
| c. got it by having someone else buy it | 13.4 (7.1 - 24.0) | | **11.9 (5.0 - 25.9)** | 13.5 (9.1 - 19.6) | **11.1 (6.9 -17.4)** | 14.6 (14.0-15.3) | **13.2 (12.6 - 13.8)** |
| [1] The CDC growth charts were used to determine weight status according to BMI for participants in the Minnesota Student Survey. | | | | | | | |
| [2] 85th to less than 95th percentile on the CDC growth charts |  | |  |  |  |  |  |
| [3] Equal to or greater than the 95th percentile on the CDC growth charts | | | | | |  |  |
| [4] 12th graders who have reported participating in either vigorous physical activity for 20 or more minutes per day on 3 or more days in the past 7 days or moderate physical activity for 30 or more minutes per day on 5 or more days in the past 7 days. | | | | | | | |
| [5] % of those who reported smoking cigarettes in the past 30 days | |  |  |  |  |  |  |
| \* - value in the left column for county in 2007 is significantly different from a corresponding value in the right column for MN STATE | | | | | | | |
| ^- value in the left column for county in 2010 is significantly different from a corresponding value in the right column for MN STATE | | | | | | | |

*Tobacco Use*

In a word, youth from Clearwater and Hubbard counties tend to use tobacco at far higher rates than those youth from Beltrami county and the rest of the state. Over the three year time span of the two surveys analyzed, Clearwater and Hubbard counties have increased in the percentages of youth using smokeless tobacco. As shown in Table 11 below. Nearly 13% of students (almost exclusively male) in Clearwater and 19.9% in Hubbard used smokeless tobacco in 2007 which grew to 19.7 and 22.4 respectively in 2010. These rates of use are nearly twice that of the state average in 2010 for the rest of all youth across Minnesota. Alternatively, the Beltrami county smokeless tobacco use rate is half that of the state and two-thirds that of Clearwater and Hubbard counties. This may be due to the uniquely urban population of Bemidji in contrast to its generally more rural sister counties. Whatever the reason, strong support exists for implementing enhanced tobacco intervention activities with youth in Clearwater and Hubbard Counties.

**Table11: MNSS tobacco use data**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Use of tobacco products**  **in the past 30 days** | | **Used smokeless tobacco**  **in the past 30 days** | |
| **County** | **2007** | **2010** | **2007** | **2010** |
| Lake of the Woods | No data | No data | No data | No data |
| Clearwater County | **29.2**  (19.7 - 40.9) | **45.9**^  (33.6 - 58.8) | **12.5**  (6.5 - 22.6) | **19.7**  (11.3 - 31.9) |
| Hubbard County | **49.3** \*  (40.9 - 57.7) | **39.3**  (30.3 - 48.9) | **19.9**  (13.9 - 27.5) | **22.4** ^  (15.4 - 31.4) |
| Beltrami County | **37.0**  (30.8 - 43.7) | **31.6**  (25.8 - 37.9) | **7.9**  (4.9 - 12.3) | **6.2** ^  (3.7 - 10.2) |
| **MN State** | **34.0**  (33.5-34.5) | **31.3**  (30.8 - 31.8) | **10.4**  (10.1-10.7) | **12.1**  (11.8 - 12.5) |

\* - value in the left column for county in 2007 is significantly different from MN STATE

^- value in the left column for county in 2010 is significantly different from MN STATE

Within the individual counties, relatively few significant (statistical) changes occurred between 2007 and 2010. This is not completely unexpected. One of the possible reasons for such few changes is the relatively short timeframe between when SHIP activities commenced in many of the schools (Aug/Sept 2009) and when the 2010 MNSS data were collected (November 2009).

***Interviews***

Interviews with SHIP staff across the region revealed some important concepts and comments. One of the more important issues to emerge was the need for school staff to attend and obtain further trainings on nutritious food preparation and understanding food nutrition labels better. In order for advances in school nutrition to be lasting, school food prep staff need to have greater skills beyond ‘heat and serve.’ The Great Trays Program sponsored by the University of Minnesota Extension is playing a role in this regard, however more work remains. One comment by a Community Leadership Team member stated “I am pleased that the school is actively involved in SHIP. Back when my kids were in school, there was a group of us that tried to make some changes in the school lunch menu and failed. It’s gratifying to see the school staff and students committed and involved in this effort.”

*“Back when my kids were in school, there was a group of us that tried to make some changes in the school lunch menu and failed. It’s gratifying to see the school staff and students committed and involved in the SHIP effort.”* ***-CLT Member***

A second important concept to emerge in the efforts to improve school nutrition was the need to continue to focus on assisting schools in purchasing equipment for the preparation and storage of fresh fruits and vegetables. While it is important to have knowledge about how to prepare healthy foods, it is just as important to have the appropriate tools such as cooking pans, pots, etc., and ample space to store the perishable foods before they are prepared. School garden initiatives address the storage issue somewhat as fresh foods can come directly from the garden into the kitchen, however longer term storage of fresh frozen foods needs to be explored in many schools in addition to the exploration of food distribution systems. Harmony House, a whole food distributor in Bemidji is working on a regional food distribution effort with Maggi Adamak, Ph.D., who initially began her work with them in part through SHIP efforts.

For all schools involved, all interviewees indicated that SHIP has played a vital role in moving their school forward by advancing healthy nutrition- rather than falling behind the curve. Lisa Beil, RN, a school nurse in Lake of the Woods County summed it up, saying “School staff are working to include students in their efforts. Part of this includes older students talking with the younger grades about opportunities, physical activities and nutrition. Students and staff are also excited about the salad and fruits offered during the lunch hour. As a health care professional, it is great to see kids making a healthier choice! SHIP has assisted us in taking a deeper look at preventative initiatives, hopefully taking place before disease is present. I look forward to the more positive changes within our school that enhance an environment of health for students and staff.”

*As a health care professional, it is great to see kids making a healthier choice! SHIP has assisted us in taking a deeper look at preventative initiatives, hopefully taking place before disease is present.*

**So what does it all mean?**

* There is an ongoing need for school staff to attend and obtain further trainings on nutritious food preparation and better understanding of food nutrition labels.
  + In order for advances in school nutrition to be lasting, school food prep staff need to have greater skills beyond ‘heat and serve.’
* Continue to focus on assisting schools in purchasing equipment for the preparation and storage of fresh fruits and vegetables in order to improve school nutrition.
* Youth from Clearwater and Hubbard counties tend to use tobacco at far higher rates than those youth from Beltrami County and the rest of the state.
  + Data shows evidence of significant needs for implementing enhanced tobacco intervention activities with youth in Clearwater and Hubbard Counties.
* One especially encouraging result from the student survey analysis was the increase in consumption of five or more servings of fruits and vegetables per day across a three county region from 19.2% of students to 19.7%. While the increase was not statistically significant, some evidence for progress does exist.
* During the first year of SHIP, many schools chose to include more healthier meal options and allow more time for consuming meals.
* After interacting with SHIP staff and receiving training, results suggest that school staff may have acquired greater knowledge/awareness of what constitutes nutritious services and healthy food offerings and thereby rated items in the post test SHI survey more accurately.

**Healthcare Referrals to Local Resources**

**Activity Goal**

Develop relationships among health care providers and community leaders and build partnerships to facilitate active referral of patients to local resources that increase access to high quality nutritious foods, opportunities for physical activity, and tobacco use cessation.

**Activities Implemented**

* **Northern Medical Clinic Bemidji, Red Lake Hospital, Behavioral Health Department, Clearwater Health Medical Clinic in Bagley and** **Innovis Clinic in Park Rapids** explored implementation of ‘I Can Prevent Diabetes’ classes. These classes can enable and motivate behavior change associated with healthy eating and active living.

**Evaluation of Goals**

**Methods**

The Health Care Systems Inventory was administered to physicians within each of the four counties at the following healthcare systems Northern Medical Clinic Bemidji, Lakewood Health Center, Clearwater Health Medical Clinic in Bagley, and Innovis Clinic in Park Rapids

**Findings**

* Aggregate results from the HCI surveys returned from regional providers (N=27) revealed that for 89% of the respondents, the health care provider that sees the patient is the most responsible to make a patient referral. Forty-four percent of those referral gatekeepers make referrals at least daily if not more.
* Only slightly over half of the clinics reported making referrals for tobacco cessation, but 96% make referrals for healthy eating/nutrition. Typically referrals occur via telephone contact with the agency to which the individual was referred.
* 58% of the respondents indicated feeling: “there are not adequate referral resources for healthy eating, physical activity, and tobacco resources in our county” (for further data/results from the office inventory, please see Appendix A).
  + This last response illustrates a challenge because it has been the experience of all SHIP staff across the four county area that trying to implement change within the healthcare setting has been the most difficult. Yet, very slow progress seemed to occur with physicians, even when offered incentives to work closely with SHIP staff to help identify further resources and promote the work of SHIP.
* Interviews with SHIP staff from the region suggest that healthcare settings are highly complex organizations with which to partner given the regulatory and financial situations of most rural hospitals.
* The greatest gains were made by SHIP staff who already possessed pre-existing relationships with physicians (pre-SHIP) and who may have been involved in partnership on some other prior health campaign. One of the keys to physician buy-in it appears, is to either locate those physicians whose interests are aligned with SHIP efforts (if they exist) or to engage in a ‘I’ll help you if you help me’ strategy whereby physicians areas of interest are explored, promoted and acted upon in exchange for cooperation on the aims of the program. At present, each of the four healthcare systems are at different stages of implementing ‘I Can Prevent Diabetes’ classes. These classes can enable and motivate behavior change associated with healthy eating and active living of the participants when participants are referred. To date, no counts exist of the number of individuals referred.

**So what does it all mean?**

* Many healthcare centers feel that there are not adequate referral resources for healthy eating, physical activity, and tobacco resources in our county, yet very slow progress seemed to occur with physicians, even when offered incentives to work closely with SHIP staff to help identify further resources and promote the work of SHIP.
* One of the keys to physician buy-in is to identify individual physicians whose interests are aligned with SHIP efforts and engage them in a dialogue whereby their interests are advanced while simultaneously undertaking SHIP program aims.

**Healthy Eating in Communities**

**Activity Goal**

Implement policies, practices, and environmental changes that improve access to nutritious foods, such as fruits and vegetables.

**Activities Implemented**

* **Clearbrook-Gonvick School Garden** was established in 2010.
* **Bagley 4-H Club** had a garden during the summer of 2010. Five children participated and provided food for approximately 15 people.
* **Clearwater County Farmer’s Market in Bagley** was the first farmer’s market ever formed in the county. With funding from SHIP and the Northwest Minnesota Regional Sustainable Development Partnership they were able to work through barriers and establish the market.
* **Bemidji Boys and Girls Club** has 15 children involved in their garden and impacted approximately 45 people in 2010.
* **Solway School/Community Garden** development has been led by Marlene Webb. There are 200 students in the Solway school and all were involved with the garden in some way. She has worked to develop a school garden at the Bemidji Middle School over the summer of 2010 and used Solway Elementary Students in the fall to help with the harvest, plans included school garden/fruit trees and are interested in working towards a Farm-to-school program with taste testing/use of crop in 2011.
* **Park Rapids –River Heights Apartments Community Garden.**
* **The Rock Sober Group**, is a support group for teens desiring to be chemically free, who chose to create a community garden in Laporte.
* **Cornerstone Apartments Transitional Garden** is a transitional housing complex for the homeless located in Park Rapids, MN.
* **Akeley Community Garden** was established
* **Nevis School** district purchased fruit trees and planted them on the school grounds. Nevis plans included school garden/fruit trees and are interested in working towards a Farm-to-school program with taste testing/use of crop in the next school year; Planted a Fruit Tree garden for use in school cafeteria. (This school has also been reported in the school section in some reports)
* **Lakewood Health Center Community Garden** has 12 sites, with one site being for the Lake of the Woods WIC clinic participants.
* **Hanson Family Community Garden** All of the food from the Hanson Community garden in 2010 was donated to the Senior Citizens center.
* **Baudette School Greenhouse Garden** was established
* **City of Baudette, MN** previously had a Farmers Market but it had gone through organizational difficulties. With funding from SHIP and the Northwest Minnesota Regional Sustainable Development Partnership they were able to work through barriers and establish the market.

**Evaluation of Goals**

**Methods**

The Nutrition Environment Assessment Tool Scorecard (NEAT) was administered in the Fall of 2009 and then again in the Spring of 2011. Local Public Health staff completed the survey by entering different establishments where food was sold and reviewing menu’s, promotions, and healthy food vending activities. Qualitative interviews were also conducted with SHIP staff and community members.

**Findings**

Overall results found that the greatest areas of change in nutritional enhancements came in the form of additional farmer’s markets, development of community gardens where members can grow their own seasonal fruits and vegetables. Specifically, categories within the NEAT that evidenced greatest change were ‘fruits and vegetables from alternative sources’, ‘family style restaurants’, and ‘fast food restaurants’ (see Table 12). For a review of the overall changes in NEAT scores by category within each county, please see Appendix B.

**Table 12: NEAT Subcategory Scores: Areas with greatest average percentage change**

|  |  |  |
| --- | --- | --- |
| **Percent Change** | **Rank** | **Area** |
| 41.7% | 1 | 1.5 Fruits/Vegetables From Alternative Sources |
| 24.1% | 2 | 1.1 Family Style Restaurants |
| 15.6% | 3 | 1.2 Fast Food Restaurants |

The greatest average percentage of change across the four counties came from an increase in the subscale ‘Fresh Fruits and Vegetables from Alternative Sources’. In terms of changes within counties, the greatest change came in Clearwater, where at the baseline, none of the items within the subscale were endorsed, but at follow-up all of the items were. The specific items contributing to scores within this subscale are located in the bullet points below.

***Fruits/Vegetables from Alternative Sources: Subscale Items***

* At least one farmers' market or road-side fruit and vegetable stand is open for business during the growing season.
* Community members can buy fruits and vegetables from at least one local specialty store produce vendor such as a Mexican or Chinese grocery or healthy food/organic food grocery store.
* At least one community garden is open where community members can grow their own seasonal fruits and vegetables.

Results demonstrate that each of the four counties made progress in initiating famer’s markets, community gardens and in expanding alternative locations for fresh fruit and vegetable consumption.

Additional findings suggest that there may have been some progress in addressing family style and fast-food restaurants. But upon closer review of the items within these subscales, results were inconclusive as several of the restaurants rated were not the same establishment from pre to post and thus were not appropriate for direct comparisons. Furthermore, the majority of North Country SHIP efforts did not focus on intervening with menus, thus significant change in this area was not necessarily expected. It is possible that through exposure to community norms which embrace more healthful food options that community restaurants will voluntarily add healthier menu options over time.

On the other hand, no changes were evidenced at all on the following three areas, *Grocery store/supermarkets*, *Community Programs*, and *Local Media*. These include things such as healthy cooking demos, grocery tours, recipe cards. The reason there were no changes in *Community Programs* and *Local Media* is because each of the counties reported at the baseline data collection period that they were already fully engaged in completing the tasks described in the following areas:

***Community Program Items***

* A free assessment or screening program for chronic disease, such as diabetes, cancer or cardiovascular disease that includes a discussion of the role of healthy eating in disease prevention.
* Free ad accessible information about cooking, nutrition, weight management programs or chronic disease prevention programs (for example, from hospitals, churches, health department or neighborhood organizations)
* Special events promoting healthy eating in the community sponsored by a regional organization or agency (such as the American Health Association, American Diabetes Association, American Cancer Society, local health departments).

***Local Media Items***

* The most widely-read local newspaper printed at least two reports that provided information about nutrition’s role in good health.
* The most widely-listened to radio station broadcast at least two reports that provided information about nutrition’s role in good health
* The most widely-watched to TV station broadcast at least two report that provided information about nutrition's role in good health

***Additional Data***

According to the Census Zip Code Business Patterns 2008 (prior to SHIP interventions) as reported in the 2010 County Health Rankings released by MDH, each of the four North Country CHB counties had lower access to healthy food compared to the rest of the state (see Table 12).

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 13: Access to Healthy Foods** | | | |
| **County** | **Zip Codes with Healthy Food** | **# Zip Codes** | **% Healthy Food** |
| Beltrami | 4 | 9 | 44 |
| Hubbard | 3 | 5 | 60 |
| Clearwater | 3 | 5 | 60 |
| Lake of the Woods | 2 | 2 | 100 |
| **State** |  |  | **54** |
| *Census Zip Code Business Patterns 2008* | | |  |

Similarly, the 2010 County Health Rankings released by MDH, reveal that each of the four North Country CHB counties likely had generally higher rates of obesity compared to the rest of the state, although statistically significant differences did not exist.

|  |  |  |  |
| --- | --- | --- | --- |
| **Table14: Adult obesity** | | | |
| **County** | **% Obese** | **95%**  **CI - Low** | **95%**  **CI - High** |
| Beltrami | 29 | 25 | 34 |
| Hubbard | 27 | 23 | 32 |
| Clearwater | 28 | 23 | 33 |
| Lake of the Woods | 28 | 23 | 34 |
| **State** | **26** |  |  |

**Interview Findings from Four Gardens**

***Success Story: Park Rapids Community***

Dr. Maurice Spangler was a physician in Park Rapids his entire professional career. During that time, he stated that he saw an explosion in obesity and diabetes related cases. He calls the disorder, ‘diabesity’. Concerned, Dr. Spangler decided upon retirement that he needed to be part of the solution, only more on the preventative side of the scale. So, when the SHIP funding opportunity came along to install a dozen raised garden beds he jumped at the chance. Spearheading the effort along with community members in partnership with SHIP/local public health, Dr. Spangler was able to quickly establish the beds and get the word out to community members of the opportunity. He said “at first, I wasn’t sure just how well received the gardens would be by the community, and now we are considering putting in another 12 beds.” Given that they wisely selected an area with plenty of space, the additional plots were easily set in this spring (2011) and all were again filled by community members eager and willing to tend a garden. His efforts have also expanded through his involvement in a regional food distribution network opportunity to help extend fresh grown fruits and vegetables to a wide audience from local fresh food producers.

***Success Story: Baudette***

At Lakewood Health Center assisted living facility in Baudette, 12 community gardening plots were made available (in 2010) to community members. These efforts have involved SHIP staff working with the local gardening club, honor society youth, and at-large community members. This year (2011) the Health Center has expanded to 20 garden plots. Comments from community members included: “The garden is fun and enjoyment for the tenants of the ARC. Thank you for letting us be a part of it!” One of the youth participating in the project said: “The tenants enjoy watching us plant the garden, giving their advice, and telling stories of their own gardening days, giving us tidbits of the “older generation” wisdom. They watch the garden grow and let us know when it should be weeded! When they see the tassel on the corn, there is excitement…because they really enjoy the corn field.”

***Success Story: LaPorte***

LaPorte planted a community garden through their Rock Sober program.  Rock Sober is for 7-12 grade students looking for alternative actives to avoid drug and alcohol use. The garden was grew lots of tomatoes and peppers from which they made salsa and canned and sold it.  They also grew squash and cucumbers for cash crops to sell at the local store to help earn money for the sustainability of the garden.  They had so much fun with the garden that they even had an end of the season party to celebrate the successful garden season and have already planted another this year (2011).

The community began to take a heightened interest when one evening, two squash were picked from the garden and smashed on the street. The next day, the newspaper ran a story about the garden and how it had been vandalized. “I was really surprised how the community reacted” said Sarah Bowles, director of the project. “Once that story hit, there was an outpouring of community support for our garden. I had people calling me telling me that they were watching out for our garden. The local police even starting patrolling past it in the evenings.” The Rock Sober garden also drew attention to a veteran’s garden that was nearby and was not well kept. Students, with help of a master Gardener, cleaned it up, weeded it, and planted new flowers.  “I believe the community really took interest in the gardens and it has stimulated others community members to think about gardening.”

*People told me that they never would have had a garden without SHIP. This was their one opportunity to be able to experience the joys of gardening and the benefits of healthy eating.*

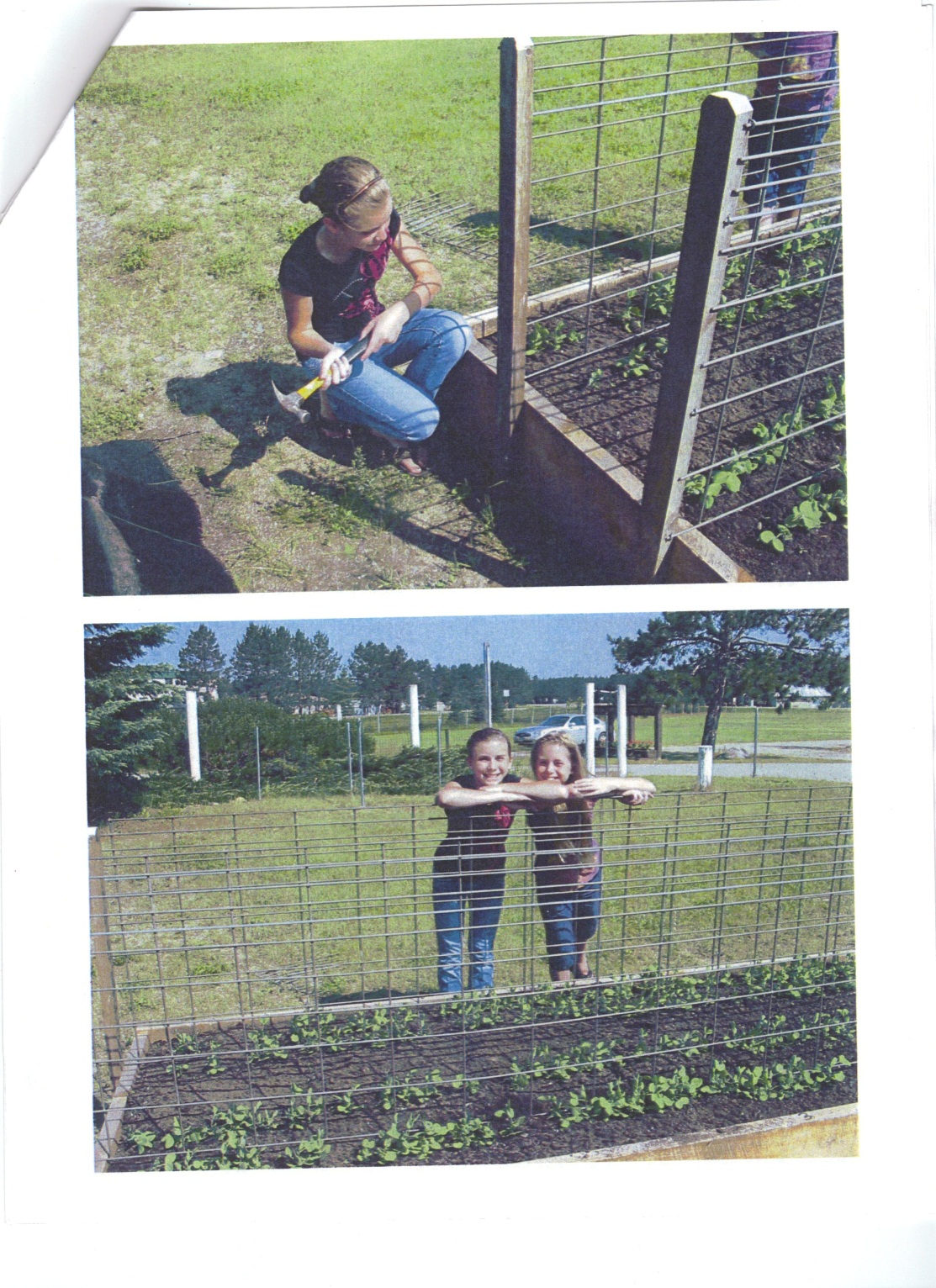
***Success Story: Akeley***

The Akeley community garden was truly a community effort headed up by a retired school janitor with a passion for health, family and hard work. John (pseudonym) expressed a strong desire to SHIP staff to install a dozen garden plots in conjunction with at least as many community members from Akeley. What started out large quickly grew small, as it took so much time planning that many interested parties dropped out before the project got going. Personalities also came into conflict as one especially stubborn individual –Anita, fought John’s plans the entire way, insisting they take each step a different way. To make matters worse, the plots that were eventually installed were tilled out of sodden and saturated earth that proved too raw and daunting for even the most committed gardener. Finally, after much debate, 10 truckloads of loamy soil were hauled into the garden plots (at John’s own personal expense) and raised beds were constructed. In fact, he was so busy preparing everyone else’s gardens that he did not have time to plant his own. Over time, the gardens grew, and so did Johns relationship with Anita, who turned out to be his biggest ally. Anita’s stubborn insistence was really passion for gardening, and now both are good friends. Not only did relationships grow between the gardeners, but a dozen families in the Akeley community were positively impacted “John stated: “people who were involved told me that they never would have had a garden without SHIP. This was their one opportunity to be able to experience the joys of gardening and the benefits of healthy eating.”

***Success Story: Park Rapids: Cornerstone Apartments Transitional Living Center***

Cornerstone Apartments Transitional Living Center in Park Rapids provides shelter for individuals and families who are homeless or have been displaced from their homes. During the summer of 2010 they decided to install eight raised garden beds so that residents of the facility could grow vegetables in their own gardens. Jan (pseudonym) was one of the residents of the facility who was homeless, unemployed and suffered from severe and persistent depression. Before the installation of the garden, Jan was never left her apartment, did not talk to any of her neighbors and had little contact with the facility managers. The installation of the bed and provision of seeds through SHIP, brought a gradual, but marked change in Jan. With each passing day she would work more diligently in her garden and even when she wasn’t working in it, would sit on her couch and watch it grow from her nearby apartment window. Cornerstone staff commented “It was the one thing in Jan’s life that motivated her to get out of bed in the morning and it did wonders in terms of elevating her mood. I think one of the reasons the gardens helped her so much was because she owned it, it was uniquely hers and no one else’s.” Ultimately, Jan’s situation improved so that she moved on to more permanent housing and found employment.

***Community/School Garden Evaluation Summary***



* Produce was raised in a total of eleven gardens receiving SHIP support during the 2010 growing season.
* Community or school gardens were established in Laporte, Park Rapids, Lake of the Woods, Akeley, Baudette, Clearbrook-Gonvick, Nevis, and Solway.

***Garden Layout, Size & Types of Vegetables Grown***

Gardens ranged widely in their size and style. Numerous gardens consisted of anywhere from two to nine raised beds 4ft wide x 10ft long. Other gardens consisted of tilled plots ranging from 4’ x 50’ to 50’ x 60’. One garden consisted of solely tomatoes and peppers planted in pots. The most popular vegetables grown were tomatoes, carrots, beans, onions, peppers, radishes, potatoes, cucumbers and squash. The least grown vegetables were peas, strawberries, broccoli, spinach and eggplant.

***Sharing the Harvest***

* As with the style of gardens, the distribution of produce was both wide and varied. Produce was distributed to, among others:
  + WIC participants;
  + Assisted living facility residents;
  + Homeless families living at a shelter;
  + School students (the produce was used in school meals as part of the lunches);
  + Local food shelves;
  + Summer food service programs.
* A conservative estimate is that over 2,000 individuals received produce from the gardens.

***Lessons Learned***

1. “The kids who worked the garden week in and out got discouraged so shift work should be considered.”
2. “We had phenomenal support for this garden from everyone involved; yet as the summer proceeded, we saw a lessening of actual physical support present at the garden. Weeding and harvesting became a project for just a few people. As we proceed into next year, we need to have a back-up program so the majority of the work does not become the responsibility of a few individuals.”
3. “Have a place to discard the weeds or compost pile close by the gardens.”
4. “Pick a convenient location next to a water supply.”
5. “Start plants later in the spring…most of the produce was ripe in August.”
6. “We had problems with extremely packed sod. We tried to till the ground for 3 weeks and the kids were losing interest, so instead we decided to have dirt brought in.”
7. “We will use a vine tunnel next year where we will grow the vines up and over a tunnel giving us 13 feet in 54 inches.”
8. “Fabric mulch was a problem…the weeds were so strong that they were lifting the fabric of the ground….We got some wood mulch donated to hold the fabric down.”
9. “Good communication with and support from the Boys and Girls club helped facilitate the development of our community garden.”
10. “Creating a staff/student/community link was challenging for us.”
11. “Vandals played a disappointment for us. Fortunately they only took two squashes and broke them on the ground…but it did open the community’s eyes to watch our garden.”
12. “Have a central person responsible for contracts and questions.” (community gardens) “Maybe mark the garden spots better so everyone knows where their spot is.”

***Comments***

* “Community members galore commented positively about seeing the kids work and two organizations have offered donations for the garden next year.”
* “The students were so excited about harvesting carrots, peas, cucumbers and tomatoes for their lunches!”
* “We already have a waiting list started for next year!”
* “Senior citizens in the area really liked the fresh produce.”

**So what does it all mean?**

* Overall results found that the greatest areas of change in nutritional enhancements came in the form of additional farmer’s markets and the development of community gardens where members can grow their own seasonal fruits and vegetables.
* Results demonstrate that each of the four counties made progress in initiating famer’s markets, community gardens and in expanding alternative locations for fresh fruit and vegetable consumption.
* A wide range of community activities were already taking place prior to SHIP, including:
* A free assessment or screening program for chronic disease,
* Free ad accessible information about cooking, nutrition, weight management programs or chronic disease prevention programs
* The most widely-read local newspaper, radio stations and TV stations run reports that provide information about nutrition’s role in good health.

**Comprehensive Worksite Wellness**

**Activity Goal**

Implement a comprehensive employee wellness initiative that provides health assessment with follow-up coaching; ongoing health education, and has policies and environment supports that promote healthy weight and healthy behaviors.

**Activities Implemented**

**LakeWood Health Center Medical Clinic, Baudette** is a federally designated Critical Access Hospital and 24 hour healthcare facility that consists of the following four divisions: LakeWood Care Center, LakeWood Clinic, LakeWood Health Center, and LakeWood Nursing Service. LakeWood Health Center has 170 employees, and service a population of 6,000 to 9,000 people in Lake of the Woods county; Koochiching county, Beltrami county, Roseau county; and neighboring Canada

LakeWood conducted an assessment of existing worksite employee wellness culture, policies, practices, and programs; organized an introductory meeting to establish the foundation of the work and to present a report of the current state of strategies, engagement, and communication; and facilitated a vision and goal setting meeting with each organization. Finally, worksite wellness teams were been developed.

**Team Industries, Bagley and Park Rapids** has 286 employees working in Clearwater and Hubbard counties. Policy, systems and environmental change efforts have focused on offering healthy food options, and negotiating with food vendors to offer more healthy snacks.

Vending was the only food option onsite, though workers are allowed to leave during their half hour lunch break. There is also a residential district close by that is conducive to walking. They completed an assessment, convened wellness committees, and developed a vision and goal statements. Worksite Wellness teams were also been developed

**Anderson Fabrics, Blackduck** is a facility that creates custom design products for interior decorators. Areas of PSE interest include a) increasing physical activity (as there are many people sitting/standing in small areas), b) assisting with smoking cessation, c) weight loss and d) healthy eating. They completed an assessment, convened wellness committees, and developed a vision and goal statements. Anderson Fabrics (Beltrami) has approximately 220 employees,

One particularly successful screening occurred at Anderson Fabrics at which 130 employees attended. Of the 130 participants 100 received tetanus boosters, 17 were referred to the Quit Smoking program, 3 were referred directly to the local medical clinic. There is onsite education in exercise, healthy eating and tobacco cessation.

**Bemidji State University** developed and promoted a campus wide tobacco-free policy. BSU has an enrollment of nearly 5,000 students.

**Evaluation of Goals**

**Methods**

Blue Cross/Blue Shield of Minnesota (BCBS) worked in tandem with Anderson Fabrics, TEAM, and Lakewood to guide them in implementing PSE changes. Additionally, BCBS administered personal wellness assessments at each of the sites to varying degrees. Selected results of the BCBS work and the wellness assessments are presented below.

**Findings**

***Lakewood Health Center, Baudette***

Personal Health Assessments were conducted with their 160 employees and found that 35% of the participants had a BMI that was over 30 and an additional 35% had a BMI that was between 25 and 29.9. This finding is generally consistent with Behavioral Risk Factor Surveillance Survey (BRFSS) estimates that 60% of the adult population is either overweight or obese. Additional findings suggest that approximately 35% of the employee population might benefit from an improvement in stress coping techniques. A number of measurements were taken including Blood glucose-fasting, Cholesterol, Triglycerides and others, however because of the low number of participants, those data are not reported here (see BCBS report for full results).

At a special presentation of worksite wellness activities in April of this year, the CEO relayed in a presentation that the challenge for Lakewood in changing their policies was in enforcing the policies established. He stated: “Do we have employees hold each other responsible? Who monitors it?” While there is a no smoking policy for the employees on the grounds, they can go to their vehicles to smoke. Larger questions also remain about patients as well. Lakewood could require that no patients smoke, but as it stands they currently have designated smoking areas. When it comes to Lakewood staff and smoking however, the CEO stated “We have to be role models because we’re a healthcare center.”

*We have to be role models [when it comes to tobacco use] because we’re a healthcare center.*

Lakewood has also changed vending machine food options and placed color coded dots (green=healthy, yellow=caution, red=not healthy) to help educate and offer healthier food options to employees.

Finally, a healthy eating challenge was instituted for 90 days for those who wanted to participate. Participants had to keep a food journal for at least 68 of the 90 days. A follow-up assessment round could occur utilizing Personal Health Assessment data should another round of SHIP take place.

***TEAM Industries, Bagley and Park Rapids***

TEAM Industries conducted an ongoing employee wellness assessment/survey from January 1, 2010 to March 31, 2011. During that time, 237 employees took part. Detailed results of the study can be found in the TEAM Industries report available from SHIP staff. The assessment found among other things:

* 79% reported interest in increasing physical activity
* 72% would use an on-site exercise weight room
* 69% of respondents were interested in purchasing an on-site healthy lunch option
* 38% would use a basketball hoop if available
* 13 people stated an interest in quitting smoking if a no-cost program was available.

At a sharing session April 12, 2011 hosted by Blue Cross Blue Shield and local employers, the CEO highlighted a key feature of what he believed made their program successful, stating “we focus on convenience -when it’s convenient for them they tend to learn that way to do that thing. The healthy choice becomes the easy choice.”

*“We focus on convenience. When it’s convenient for them [people] they tend to learn that way to do that thing. The healthy choice becomes the easy choice.”*

In order to make more healthy choices easier, a range of program activities were implemented, including catering in a healthy lunch option, healthy options during meetings, changing vending and healthy food labeling in vending machines, and healthy food taste-testing, Further, TEAM worked to increase awareness of wellness through newsletters and postings, as well as plant sports competitions and ‘Fresh Fruit Days’ (see success story on page 34).

***Anderson Fabrics, Blackduck***

Anderson Fabrics (AF) implemented a number of strategies to improve health. Among these actions included:

1. Health Fair assessments – approximately 130 employees were administered a biometrics and/or health assessment and given flu shots and other immunizations
   1. All employees had their own personal confidential information. All attendees were offered granola and yogurt and other healthy food offerings. Some of the people attended had never tasted yogurt and granola and reported enjoying it. Three participants had glucose levels that were so elevated that they were immediately sent to the hospital. Three others were unaware they had dangerously high blood pressure.
   2. Health Assessment Aggregate report
      1. 40 people had high BMI,
      2. 7 were at risk for hypertension,
      3. 34 had high cholesterol, risk for heart disease,
      4. 15 had diabetes,
      5. 22 smoking risks (17 referred with 6 not engaging in follow up),
      6. 15 with no health care access (number is likely higher).
2. Offering more healthy food options at company functions such as fresh fruits and vegetables and grilled chicken, eliminated potato salad.
   1. Nursing students talked about bringing in healthier lunches, made table tents with healthy recipes. Table tents have been placed in break rooms.
3. Healthy vending improvements.
   1. AF struggled as the vendor did not want to make any healthy change options to AF’s machines, but ultimately was convinced to do so. They also placed green dots on vending machine items indicating healthier choices.
4. Physical Activity
   1. Because the AF facility is not close to any trails, they built a quarter mile indoor walking path
      1. Internal walking routes were mapped, people are walking on break and before work.
      2. Pedometers were provided from SHIP funds.
      3. Figuring out a system for getting people trained on equipment.
      4. Administration of a signed-waiver.
5. Tobacco
   1. Because people do not want fabrics with smoke smell in them, employees are not allowed to smoke in the building or near any of the fabrics.
      1. AF created a smoking committee which designated two smoking areas and participate in two campaigns; QUITPLAN and the Great American Smokeout.
6. Naming and Branding challenge
   1. Held a naming/branding contest.
   2. Employees were engaged and excited to develop branding.
   3. Helped to form a wellness identity and get employee buy-in.
7. AF is promoting two weight management programs
   1. Office has a weight challenge going on now
   2. Doing TOPS (taking off pounds sensibly)

***Success Story: Team Industries***

It’s not always difficult to get the message out and change behavior! TEAM industries located in Bagley and Park Rapids, has over 200 employees benefitting from an employee wellness program initiated through SHIP. Efforts focused on reducing tobacco use, increasing healthy eating and physical activity. A story that illustrates the power of the changes instituted was relayed by the CEO of TEAM. One day, he began inauspiciously bringing in unsalted peanuts, apples, bananas and other healthy foods fresh vegetables to the break room available for employees to snack on in one of the facilities. After 4-5 times of doing this, the CEO was quite pleased that employees were eating so healthy, so to reward them, he brought in several boxes of doughnuts. Upon bringing the boxes of doughnuts in, instant ridicule followed. He said ‘several of the employees accused me of trying to kill them. They were actually upset that I brought in the doughnuts…that was a mistake. I was pleasantly surprised, but boy was I surprised!’

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 15: Adult smoking** | | | | |
| **County** | **Sample Size** | **% Smokers** | **95% CI - Low** | **95% CI - High** |
| Beltrami | 267 | 32 | 25 | 40 |
| Hubbard | nd | 21 | 13 | 32 |
| Clearwater | 61 | nd | nd | nd |
| Lake of the Woods | 30 | nd | nd | nd |
| State |  | 19 |  |  |
| BRFSS 2003-2008 |  |  |  |  |

Unfortunately, county level statistics on adult tobacco use only exist for Beltrami and Hubbard counties for the BRFSS data set. Available results for both Beltrami and Hubbard county suggest that adults smoking is a prevalent concern.

**So what does it all mean?**

* Enforcement of no-smoking policies could be challenging for employers than establishing the rules in the first place.
* Smoking rates for adults in the region is generally higher than state averages.
* Employees were very receptive to activities that helped increase physical activity.
* Personal health assessments/wellness surveys were effective activities for screening for needs and identifying high-risk employees for appropriate referrals.

**Appendix A: Health Care Systems Inventory Results (N=27)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Who in the clinic is most responsible to make a patient referral? | 24 | 89% | Heath care provider that has seen the patient | | | |
|  |  | 2 | 7% | The nurse that works with the healthcare provider | | | |
|  |  | 1 | 4% | Office staff | |  |  |
|  |  | 0 | 0% | Laboratory or technician | | |  |
|  |  | 0 | 0% | Other |  |  |  |
|  |  | 27 | 100% |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 2 | How often does the person identified in Question 1 make referrals |  |  |  |  |  |  |
|  |  | 8 | 32% | More than once a day | | |  |
|  |  | 3 | 12% | Daily |  |  |  |
|  |  | 1 | 4% | Three to 5 times a week | | |  |
|  |  | 13 | 52% | Less than 3 times a week | | |  |
|  |  | 25 | 100% |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 3 | Does your clinic make referrals for tobacco cessation? |  |  |  |  |  |  |
|  |  | 14 | 54% | Yes |  |  |  |
|  |  | 12 | 46% | No |  |  |  |
|  |  | 26 | 100% |  |  |  |  |
| 4 | Does your clinic make referrals for healthy eating/nutrition services? |  |  |  |  |  |  |
|  |  | 25 | 96% | Yes |  |  |  |
|  |  | 1 | 4% | No |  |  |  |
|  |  | 26 | 100% |  |  |  |  |
| 5 | Does your clinic make referrals to the Center for Weight Management |  |  |  |  |  |  |
|  |  | 20 | 77% | Yes |  |  |  |
|  |  | 6 | 23% | No |  |  |  |
|  |  | 26 | 100% |  |  |  |  |
| 6 | Does your clinic make referals for increasing physical activitiy? |  |  |  |  |  |  |
|  |  | 16 | 64% | Yes |  |  |  |
|  |  | 9 | 36% | No |  |  |  |
|  |  | 25 | 100% |  |  |  |  |
| 7 | Who is primarily responbsible for the completion of the referral? |  |  |  |  |  |  |
|  |  | 6 | 24% | The patient | |  |  |
|  |  | 19 | 76% | The clinic staff | |  |  |
|  |  | 25 | 100% |  |  |  |  |
| 8 | If your staff communicates with the community agency, how is this usually done? |  |  |  |  |  |  |
|  |  | 24 | 69% | Telephone | |  |  |
|  |  | 8 | 23% | Fax |  |  |  |
|  |  | 2 | 6% | E-mail |  |  |  |
|  |  | 1 | 3% | We do not communicate with community agencies | | | |
|  |  | 35 | 100% |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 9 | Are you aware if your patients receive the services to which they were referred? |  |  |  |  |  |  |
|  |  | 21 | 81% | Yes |  |  |  |
|  |  | 5 | 19% | No |  |  |  |
|  |  | 26 | 100% |  |  |  |  |
| 10 | Do you feel there are adequate referral resources for healthy eating, physical activity, and tobacco resources in your county? |  |  |  |  |  |  |
|  |  | 11 | 42% | Yes |  |  |  |
|  |  | 15 | 58% | No |  |  |  |
|  |  | 26 | 100% |  |  |  |  |

**Appendix B: NEAT Score Changes by County**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Pre** | **Post** |  |
|  | **Clearwater** | **Clearwater** |  |
|  | **Support Rating of Community** | **Support Rating of Community** |  |
|  |  |
|  |  |
| **SECTION 1: COMMUNITY POLICIES & ENVIRONMENT** |  |  | **%  Change** |
| **1.1 Family Style Restaurants** | 35.9% | 81.1% | 45.2% |
| **1.2 Fast Food Restaurants** | 0.0% | 39.5% | 39.5% |
| **1.3 Grocery Stores/Supermarkets** | 39.5% | 71.1% | 31.6% |
| **1.4 Convenience Stores/Supermarkets** | 50.0% | 50.0% | 0.0% |
| **1.5 Fruits/Vegetables From Alternative Sources** | 0.0% | 100.0% | 100.0% |
| **1.6 Community Programs** | 100.0% | 100.0% | 0.0% |
| **1.7 Local Media** | 100.0% | 100.0% | 0.0% |
| **1.8 Medical Practices** | --- | --- |  |
| **TOTALS** | 37.6% | 78.0% | 40.4% |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Pre** | **Post** |  |
|  | **LOW** | **LOW** |  |
|  | **Support Rating of Community** | **Support Rating of Community** |  |
|  |  |
|  |  |
| **SECTION 1: COMMUNITY POLICIES & ENVIRONMENT** |  |  | **%  Change** |
| **1.1 Family Style Restaurants** | 51.3% | 100.0% | 48.7% |
| **1.2 Fast Food Restaurants** | 23.1% | 38.5% | 15.4% |
| **1.3 Grocery Stores/Supermarkets** | 42.1% | 36.8% | -5.3% |
| **1.4 Convenience Stores/Supermarkets** | 61.1% | 63.0% | 1.9% |
| **1.5 Fruits/Vegetables From Alternative Sources** | 33.3% | 66.7% | 33.3% |
| **1.6 Community Programs** | 100.0% | 66.7% | -33.3% |
| **1.7 Local Media** | 100.0% | 100.0% | 0.0% |
| **1.8 Medical Practices** | --- | --- |  |
| **TOTALS** | 44.1% | 59.4% | 15.3% |
|  |  |  |  |
|  |  |  |  |
|  | **Pre** | **Post** |  |
|  | **Beltrami** | **Beltrami** |  |
|  | **Support Rating of Community** | **Support Rating of Community** |  |
|  |  |
|  |  |
| **SECTION 1: COMMUNITY POLICIES & ENVIRONMENT** |  |  | **%  Change** |
| **1.1 Family Style Restaurants** | 87.2% | 94.9% | 7.7% |
| **1.2 Fast Food Restaurants** | 56.4% | 56.4% | 0.0% |
| **1.3 Grocery Stores/Supermarkets** | 60.5% | 52.6% | -7.9% |
| **1.4 Convenience Stores/Supermarkets** | 61.1% | 55.6% | -5.6% |
| **1.5 Fruits/Vegetables From Alternative Sources** | 100.0% | 100.0% | 0.0% |
| **1.6 Community Programs** | 100.0% | 100.0% | 0.0% |
| **1.7 Local Media** | 100.0% | 100.0% | 0.0% |
| **1.8 Medical Practices** | --- | --- |  |
| **TOTALS** | 69.2% | 68.5% | -0.7% |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Pre** | **Post** |  | |
|  | **Hubbard** | **Hubbard** |  | |
|  | **Support Rating of Community** | **Support Rating of Community** |  | |
|  |  | |
|  |  | |
| **SECTION 1: COMMUNITY POLICIES & ENVIRONMENT** |  |  | **%  Change** | |
| **1.1 Family Style Restaurants** | 82.1% | 76.9% | -5.1% | |
| **1.2 Fast Food Restaurants** | 71.8% | 79.5% | 7.7% | |
| **1.3 Grocery Stores/Supermarkets** | 79.2% | 62.5% | -16.7% | |
| **1.4 Convenience Stores/Supermarkets** | 51.9% | 66.7% | 14.8% | |
| **1.5 Fruits/Vegetables From Alternative Sources** | 66.7% | 100.0% | 33.3% | |
| **1.6 Community Programs** | 100.0% | 100.0% | 0.0% | |
| **1.7 Local Media** | 66.7% | 66.7% | 0.0% | |
| **1.8 Medical Practices** | --- | --- |  | |
| **TOTALS** | 74.4% | 72.3% | -2.1% | |
| 90 to 100% - This aspect of your community is Fully Supportive of healthy eating | | | |
| 75 to 89.9% - Mostly Supportive of healthy eating | | | |
| 50 to 74.9% - Partially Supportive of healthy eating | | | |

1. To measure access to recreational facilities, the most current County Business Patterns data set (2008) presents a measure of recreational facilities per population, in which recreational facilities are identified by the NAICS code 713940. This industry class includes establishments primarily engaged in operating fitness and recreational sports facilities, featuring exercise and other active physical fitness conditioning or recreational sports activities, such as swimming, skating, or racquet sports. [↑](#footnote-ref-1)
2. The measure reported by the County Health Rankings is recreational facilities per 100,000 population in the county. More detailed information about the social and cultural environments in communities may lead to a better understanding about what will improve physical fitness levels, but presence of recreational facilities is the best indicator of the built environment that is currently available across all counties in the U.S. [↑](#footnote-ref-2)
3. The SHI scale ranges from 0-3 where 0= services are not in place and 3= services are fully in place. [↑](#footnote-ref-3)